

REMARKS

Claims 1-8, 11-15, 17-25, 27-28, 45-48, 50-55, 57-65, 67-70, 72-76, 78, and 80-84 remain in this application. The examiner allowed claims 45-48, 50-65, 67-68. The Examiner stated that claims 2, 73, and 81 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 10, 16, 56, 71, and 79 have been canceled. Claims 9, 26, 29-44, 49, 66, 77, and 85-89 have been withdrawn as the result of an earlier restriction. In view of the examiner's earlier restriction requirement, that applicants retain the right to present claims 9, 26, 29-44, 49, 66, 77, and 85-89 in a divisional application.

I. CLAIM OBJECTIONS

The examiner objected to claims 1 and 69 because the examiner asserted that the newly added limitation stating "is capable of managing the temperature" makes the claim language confusing. The examiner suggested claim amendments to clarify the language of the claims.

The applicants amend claim 1 above to remove the objected-to language. The applicants submit that the objected-to language is not in claim 69. The applicants request that the objections be removed from claims 1 and 69.

II. CLAIM REJECTIONS – 35 U.S.C. § 102

A. Examiner's Statements

The examiner rejected claims 1, 3-8, 10-12, 15, 25, 27-28, 69-72, 74-76, 78-80, and 82-84 under 35 U.S.C. § 102(b) as being anticipated by Flores (U.S. Patent No. 5,701,751) [hereinafter Flores].

B. Law

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.¹ The identical invention must be shown in as complete detail as is contained in the ... claim.² To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a

¹ *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

² *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

certain thing may result from a given set of circumstances is not sufficient.”³ Thus, the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish inherency of that result or characteristic.⁴ In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.⁵ In addition to disclosing every claim limitation, an anticipatory prior art reference must enable the practice of the invention and describe it sufficiently to have placed it in the possession of a person of ordinary skill in the field of the invention.⁶

C. Claims 1, 3-8, 10-12, 15, 25, 27-28, 69-72, 74-76, 78-80, and 82-84

Claims 1, 3-8, 10-12, 15, 25, 27-28, 69-72, 74-76, 78-80, and 82-84 are not anticipated by Flores because Flores does not disclose a heat storage unit that absorbs heat with a phase change material enclosed in a jacket and where all phases of the phase change material are maintained within the jacket. The examiner refers to item 50 in Figure 7A and 7B as a heat storage unit. Flores describes item 50 as a tank that holds water. This water is converted to steam as heat is absorbed from the heat pipes 43. However, instead of the steam remaining in the tank 50, a compressor removes the steam to an upper tank 100 where the high-pressure steam is stored. The high pressure steam then condenses as heat from the high-pressure steam is conducted from the steam to the borehole through the walls of the tank 100. Flores even specifically states that the upper tank 100 serves as the hot heat exchanger in the system, thus operating by transferring heat to another location.⁷ Therefore, Flores manages the temperature of the thermal components by transferring the heat to another location by transferring the steam to another tank, rather than storing the heat and the phase change material within the tank 50. The claims require a heat storage unit including a phase change material enclosed in a jacket that absorbs and stores heat with the phase change material. However, the claims require that the phase change material remain enclosed in the jacket, instead of transferring the phase change material to another location. Therefore, the applicants

³ *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

⁴ *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993).

⁵ *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).

⁶ *In re Paulsen*, 30 F.3d 1475, 1478-79 (Fed. Cir. 1994).

⁷ Flores, column 5, lines 31-32.

respectfully submit that Flores does not anticipate claims 1, 3-8, 10-12, 15, 25, 27-28, 69-72, 74-76, 78-80, and 82-84 because Flores does not disclose each of the claim limitations. The applicants therefore respectfully request that the examiner withdraw the rejection of claims 1, 3-8, 10-12, 15, 25, 27-28, 69-72, 74-76, 78-80, and 82-84.

III. CLAIMS REJECTIONS – 35 U.S.C. § 103

A. Examiner's Statements

The examiner rejected claims 13-14 under 35 U.S.C. §103(a) as being unpatentable over Flores in view of Boesen (U.S. Patent No. 4,375,157) [hereinafter Boesen]. The examiner rejected claims 17-18 under 35 U.S.C. § 103(a) as being unpatentable over Flores. The examiner rejected claims 17-24 under 35 U.S.C. § 103(a) as being unpatentable over Flores in view of Drube et al. (U.S. Patent No. 6,799,429) [hereinafter Drube].

B. Law

The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.⁸ Second, there must be a reasonable expectation of success.⁹ Finally, the prior art reference, or references when combined, must teach or suggest all the claim limitations.¹⁰ The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.¹¹

There are three possible sources for a motivation to combine references: (1) the nature of the problem to be solved; (2) the teachings of the prior art; and (3) the knowledge of persons of ordinary skill in the art.¹² The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the

⁸ *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

⁹ *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

¹⁰ *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

¹¹ *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

¹² *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998).

combination.¹³ Thus, a statement that modifications of the prior art to meet the claimed invention would have been “well within the ordinary skill of the art at the time the claimed invention was made” because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references.¹⁴

Also, if the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.¹⁵ In addition, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.¹⁶

C. Claims 13 and 14 Are Not Unpatentable Over Flores In View Of Boesen

The applicants repeat the remarks made above for claim 1. If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious.¹⁷ As claims 13 and 14 depend from claim 1, claims 13 and 14 are also nonobvious under 35 U.S.C. § 103(a). Therefore, the applicants request that the examiner withdraw the rejection with respect to claims 13 and 14 as well.

D. Claims 17-18 Are Not Unpatentable Over Flores

The applicants repeat the remarks made above for claim 1. If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious.¹⁸ As claims 17 and 18 depend from claim 1, claims 17 and 18 are also nonobvious under 35 U.S.C. § 103(a). Therefore, the applicants request that the examiner withdraw the rejection with respect to claims 17 and 18 as well.

¹³ *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990); see also *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992).

¹⁴ *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993); see also *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1318 (Fed. Cir. 2000); *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999).

¹⁵ *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

¹⁶ *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

¹⁷ *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

¹⁸ *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

E. Claims 17-24 Are Not Unpatentable Over Flores In View Of Drube

The applicants repeat the remarks made above for claim 1. If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious.¹⁹ As claims 17-24 depend from claim 1, claims 17-24 are also nonobvious under 35 U.S.C. § 103(a). Therefore, the applicants request that the examiner withdraw the rejection with respect to claims 17-24 as well.

IV. ALLOWABLE SUBJECT MATTER

The examiner allowed claims 45-48, 50-65, 67-68. The Examiner stated that claims 2, 73, and 81 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The applicants respectfully submit that base claims 2, 73, and 81 are in condition for allowance as discussed above. Therefore, the applicants respectfully request that the examiner remove the objection with respect to claims 2, 73, and 81.

V. STATEMENT REGARDING CLAIMS

The applicants have argued the allowability of the claims by addressing the comments by the examiner in this paper as well as previously during the prosecution of this application. By doing so, the applicants are in no way limiting their ability to argue additional points of novelty regarding the independent claims or dependent claims at a later date.

CONCLUSION

The applicants respectfully request reconsideration the pending claims and that a timely Notice of Allowance be issued in this case. If the examiner feels that a telephone conference would expedite the resolution of this case, he is respectfully requested to contact the undersigned.

In the course of the foregoing discussions, the applicants may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. There may also be other distinctions between the claims and the prior art that have yet to be raised, but that may be raised in the future.

¹⁹ *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

June 12, 2006

Reply to final Office action dated March 13, 2006

If any fees are inadvertently omitted or if any additional fees are required or have been overpaid, please appropriately charge or credit those fees to Conley Rose, P.C. Deposit Account Number 03-2769 (ref. 1391-34500) of Conley Rose, P.C., Houston, Texas.

Respectfully submitted,

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